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58408 7590 03/26/2008 BARRY W. CHAPIN, ESQ. CHAPIN INTELLECTUAL PROPERTY LAW, LLC WESTBOROUGH OFFICE PARK 1700 WEST PARK DRIVE WESTBOROUGH, MA 01581				
EXAMINER L.Y. NGHH H				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/786,529

Applicant(s)

KAUDINYA, MURALI P.

Examiner

NGHI H. LY

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-26 and 28-53 is/are rejected.
- 7) ☒ Claim(s) 12 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. Claims 31 and 32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 31 and 32 lack the proper preamble necessary for a statutory computer program product claim. See MPEP 2100 for guidance on computer related inventions.

The examiner suggests a preamble as follows:

"31. (Original) A computer readable medium containing computer executable instructions, when performed in a transceiver having a coupling to a communications interface provides a method for authenticating the transceiver with a control station in a network by performing the operations of:"

"32. (Original) A computer readable medium containing computer executable instructions, when performed in a control station having a coupling to a communications interface provides a method for authenticating a transceiver with the control station by performing the operations of:"

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 11, 13-20, 22-24, 26, 28-32, 34 and 40-53 are rejected under 35

U.S.C. 103(a) as being unpatentable over Leivo et al (US 6,782,080) in view of Reader (US 2004/0054905A1) and further in view of Hughes et al (US 6,842,106).

Regarding claims 1, 13, 31 and 32, Leivo teaches a method for authenticating operation of a transceiver with a control station within a wireless remote identification system (see Abstract and Title, see "authenticating" and see fig.3, item 33), the method comprising: receiving transceiver configuration information including a network address (see column 7, lines 6-25, see "code") and transceiver authentication credentials (see column 7, lines 6-25, see "code"), receiving an authentication request from a control station within the remote identification system (see column 7, lines 6-25, see "request" or "requested"), and transmitting the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system (see column 7, lines 6-25, see "response").

Leivo does not specifically disclose applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response.

Reader teaches applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response (see pages 4-5, [0038]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Reader into the system of Leivo in order to protect member privacy (see Reader, [0003]).

The combination of Leivo and Reader does not specifically disclose producing an authentication response for authenticating the transceiver by applying authentication in the authentication processing to request information, the authentication processing being based on use of the authentication credentials associated with transceiver.

Hughes teaches producing an authentication response for authenticating the transceiver by applying authentication in the authentication processing to request information (see Abstract, column 6, lines 12-18 and column 7, lines 32-47), the authentication processing being based on use of the authentication credentials associated with transceiver (see column 4, line 66 to column 5, line 10 and column 5, lines 19-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Hughes into the system of Leivo and Reader in order to provide a method for secure communications between a RFID and RFID tags (see Hughes, column 1, lines 6-10).

Regarding claims 2 and 17, Leivo further teaches i) a transceiver identification code uniquely assigned to the transceiver (see column 8, lines 32-47, see "code"), and
ii) a transceiver instruction set containing a set of authentication values and corresponding authentication instructions (see column 7, lines 6-25).

Regarding claims 3, 18 and 45, Leivo further teaches periodically receiving replacement transceiver authentication credentials to replace the transceiver authentication credentials formerly received by the transceiver (see column 7, lines 6-25).

Regarding claims 4, 19, 42 and 46, Leivo further teaches the request information within the authentication request includes: i) an request authentication result (see column 7, lines 6-25), and ii) a request data value (see column 7, lines 6-25, see "request"), wherein applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response (see column 7, lines 6-25, see "code") comprises: identifying an authentication instruction that matches the request authentication result (see column 7, lines 25-54), and applying the authentication instruction that matches the request authentication result to the request data value from the authentication request to produce the authentication response (see column 7, lines 25-54).

Regarding claims 5, 20, 43 and 47, Leivo further teaches applying an authentication function to authentication values in the set of authentication values within the transceiver authentication credentials to produce corresponding transceiver authentication results (see column 7, lines 6-25), and for each transceiver authentication result produced, determining if the transceiver authentication result matches the request authentication result for that authentication value (see column 7, lines 6-25), and if the transceiver authentication result matches the request authentication result for that authentication value (see column 7, lines 6-25), performing

the operation applying the authentication instruction to produce the authentication response (see column 7, lines 6-25).

Regarding claims 7, 22 and 48, Leivo further teaches applying the authentication instruction to the request data value in conjunction with the transceiver identification code to obtain the authentication response (see column 7, lines 6-25 and see column 8, lines 32-48).

Regarding claims 8 and 23, Leivo further teaches i) an authentication acknowledgement is received from the control station indicating that the transceiver was successfully authenticated (see column 7, lines 6-25), and ii) a number of repeated attempts to authenticate the transceiver each fail (see column 7, lines 6-25).

Regarding claims 9 and 24, Leivo further teaches i) a different request authentication result for use by the transceiver to select an authentication instruction (see column 8, lines 32-48), and ii) a different request data value for use by the transceiver during application of the selected authentication instruction (see column 8, lines 32-48).

Regarding claims 11 and 26, Leivo further teaches performing an automatic download operation to receive the transceiver authentication credentials during trusted time period of operation of the transceiver (see column 8, lines 32-48).

Regarding claims 14 and 29, Leivo selecting a transceiver authentication value from the transceiver authentication credentials (see column 7, lines 25-53 and column 8, lines 32-48), and applying an authentication function to the transceiver authentication

value to produce the request authentication result for use in the authentication request (see column 8, lines 32-48).

Regarding claims 15 and 30, Leivo further teaches applying an authentication instruction corresponding to the selected transceiver authentication value to the request data value in conjunction with a transceiver identification code of the transceiver to which the authentication request was provided in order to produce a control station response (see column 8, lines 32-48), and comparing the control station response to the authentication response answer within the authentication response to determine if they are equivalent, and if they are equivalent, indicating that the authentication response answer is valid (see column 8, lines 32-48).

Regarding claims 16, 28, 41 and 50, Leivo teaches a transceiver comprising: a memory (see column 3, lines 52-67, see "database"), a communications interface (see fig.3, connection between devices), an interconnection mechanism coupling the memory (see column 3, lines 52-67, see "database"), the processor (see column 5, lines 12-13, see "processing"), and the communications interface (see fig.3, connection between devices), the memory encoded with an authentication process that when executed by the processor (see Abstract and Title, see "authenticating"), causes the transceiver authenticate operation of the transceiver with a control station within a wireless remote identification system by causing the transceiver to perform the operations of: receiving, via the communications interface, transceiver configuration information including a network address and transceiver authentication credentials (see column 7, lines 6-25, see "code" and see column 8, lines 32-48), receiving, via the

communications interface, an authentication request from a control station within the remote identification system (see column 7, lines 6-25, see "request" or "requested"), and transmitting, via the communications interface, the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system (see column 7, lines 6-25, see "response").

Leivo does not specifically disclose applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response.

Reader teaches applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response (see pages 4-5, [0038]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Reader into the system of Leivo in order to protect member privacy (see Reader, [0003]).

The combination of Leivo and Reader does not specifically disclose applying authentication processing to request information within the authentication request by modifying the request information using the transceiver authentication credentials, producing an authentication response to include the modified request information.

Hughes teaches applying authentication processing to request information within the authentication request by modifying the request information using the transceiver authentication credentials (see Abstract, column 6, lines 12-18 and column 7, lines 32-

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47), producing an authentication response to include the modified request information (see column 3, lines 9-54 and column 7, lines 15-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Hughes into the system of Leivo and Reader in order to provide a method for secure communications between a RFID and RFID tags (see Hughes, column 1, lines 6-10).

Regarding claims 34 and 44, Leivo further teaches maintaining a set of authentication instructions and corresponding authentication values generated by the transceiver, matching an authentication value received in the authentication request from the control station to a respective corresponding authentication value in the set (see column 7 lines 25-53 and see column 8, lines 32-48), identifying a corresponding authentication instruction associated with the corresponding authentication value in the set and applying the corresponding authentication instruction to a data value in the authentication request to produce the authentication response (see column 7 lines 25-53).

Regarding claims 40 and 49, Leivo further teaches applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response includes: based on information in the authentication request (see column 7, lines 6-25, see "request" or "requested"), identifying one of multiple authentication instructions maintained at the transceiver, and applying the identified one of multiple authentication instructions to i) a data value in the authentication request received from the control

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station and ii) an identification code associated with the transceiver to produce the authentication response (see column 7, lines 6-25, see "response").

Regarding claim 51, Leivo further teaches receiving the authentication request includes receiving a data value associated with the authentication request (see column 7 lines 25-53 and see column 8, lines 32-48), and wherein producing the authentication response includes: selecting a given computational instruction of multiple computational instructions associated with the transceiver (see column 7, lines 6-25), computing an authentication response value by applying the given computational instruction to the data value associated with the authentication request (see column 7 lines 25-53 and see column 8, lines 32-48), and generating the authentication response to include the authentication response value (see Abstract).

Regarding claim 52, Leivo further teaches receiving the authentication request includes receiving a first data value and a second data value from the control station (see column 8, lines 32-48), and wherein producing the authentication response includes: utilizing the first data value to identify an instruction of multiple instructions associated with the transceiver (see column 7, lines 6-25), computing an authentication response value by applying the identified instruction to the second data value, and generating the authentication response to include the authentication response value (see Abstract).

Regarding claim 53, Leivo further teaches receiving a set of authentication values and corresponding instructions (see Abstract and Title, see "authenticating" and see fig.3, item 33), applying a hash function associated with the transceiver to each of

the authentication values in the set to create a mapping of hashed authentication values to the corresponding instructions (see Abstract and Title, see “authenticating” and see fig.3, item 33), wherein receiving the authentication request includes receiving a first data value and a second data value from the control station (see column 8, lines 32-48), and wherein producing the authentication response includes: comparing the first data value to the hashed authentication values in the mapping to identify a given instruction of multiple instructions associated with the transceiver (see column 7, lines 6-25), computing an authentication response value by applying the given instruction to the second data value (see Abstract and Title, see “authenticating” and see fig.3, item 33), and generating the authentication response to include the authentication response value (see column 7, lines 6-25).

4. Claims 6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leivo et al (US 6,782,080) in view of Reader (US 2004/0054905A1) and further in view of Hughes et al (US 6,842,106) and Phillips et al (US 6,721,555).

Regarding claims 6 and 21, the combination of Leivo, Reader and Hughes teaches claim 5. The combination of Leivo, Reader and Hughes does not specifically disclose the request authentication result is a hash value result produced from a hash function within the control station and wherein the authentication function is an equivalent hash function within the transceiver and wherein the request authentication result is calculated by the control station using the hash function on a copy of the

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authentication values in the set of authentication values within the transceiver authentication credentials that is programmed into the control station.

Phillips teaches the request authentication result is a hash value result produced from a hash function within the control station and wherein the authentication function is an equivalent hash function within the transceiver and wherein the request authentication result is calculated by the control station using the hash function on a copy of the authentication values in the set of authentication values within the transceiver authentication credentials that is programmed into the control station (see Title and column 6, lines 5-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Phillips into the system of Leivo, Reader and Hughes in order to provide a system for efficiently accommodating an authentication protocol in a communication network (see Phillips, Abstract).

5. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leivo et al (US 6,782,080) in view of Reader (US 2004/0054905A1) and further in view of Hughes et al (US 6,842,106) and Bolle et al (US 6,819,219).

Regarding claims 10 and 25, the combination of Leivo, Reader and Hughes teaches claim 1. The combination of Leivo, Reader and Hughes does not specifically disclose the transceiver is an RFID transceiver and wherein the control station operates an RFID management application.

Bolle teaches the transceiver is an RFID transceiver and wherein the control station operates an RFID management application (see column 5, line 61 to column 6, line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bolle into the system of Leivo, Reader and Hughes in order to provide a system for efficiently accommodating an authentication protocol in a communication network (see Phillips, Abstract).

6. Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leivo et al (US 6,782,080) in view of Reader (US 2004/0054905A1) and further in view of Hughes et al (US 6,842,106) and Boylan et al (US 2005/0166091A1).

Regarding claim 33, the combination of Leivo, Reader and Hughes teaches the transceiver authentication credentials (see Leivo, column 7, lines 6-25). The combination of Leivo, Reader and Hughes does not specifically disclose the transceiver authentication credentials includes at least one of a roll forward and a roll back instruction and wherein a request data value in the authentication request from the control station indicates an amount by which to roll an instruction set associated with the transceiver.

Boylan teaches the transceiver authentication credentials includes at least one of a roll forward and a roll back instruction and wherein a request data value in the authentication request from the control station indicates an amount by which to roll an

instruction set associated with the transceiver (see page 5, claim 12 and see page 3, [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Boylan into the system of Leivo, Reader and Hughes in order to provide a system to meet the demands of customers and hosting organizations for rapid change of business entities and real time performance (see Boylan, page 1, [0008]).

Regarding claim 35, the combination of Leivo, Reader and Hughes teaches maintaining a set of authentication instructions and corresponding authentication values generated by the transceiver (see Leivo, Abstract and column 7, lines 6-25). The combination of Leivo, Reader and Hughes does not specifically disclose and shifting a relationship position of the authentication instructions relative to the corresponding authentication values in the set by an amount specified by a data value in the authentication request such that, after shifting the relationship position, each corresponding authentication value in the set corresponds to a different authentication instruction than prior to shifting the relationship position of the authentication instruction.

Boylan teaches shifting a relationship position of the authentication instructions relative to the corresponding authentication values in the set by an amount specified by a data value in the authentication request such that, after shifting the relationship position, each corresponding authentication value in the set corresponds to a different authentication instruction than prior to shifting the relationship position of the authentication instruction (see page 5, claim 12 and see page 3, [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Boylan into the system of Leivo, Reader and Hughes in order to provide a system to meet the demands of customers and hosting organizations for rapid change of business entities and real time performance (see Boylan, page 1, [0008]).

7. Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leivo et al (US 6,782,080) in view of Reader (US 2004/0054905A1) and further in view of Hughes et al (US 6,842,106) and Carroll et al (US 6,611,913).

Regarding claim 36, the combination of Leivo, Reader and Hughes teaches the transceiver authentication credentials (see Leivo, Abstract and column 7, lines 6-25). The combination of Leivo, Reader and Hughes does not specifically disclose receiving a first alphanumeric value and a corresponding first instruction, receiving a second alphanumeric value and a corresponding second instruction, and maintaining the first alphanumeric value and the corresponding first instruction at the transceiver as a first value-instruction pair, maintaining the second alphanumeric value and the corresponding second instruction at the transceiver as a second value-instruction pair.

Carroll teaches receiving a first alphanumeric value and a corresponding first instruction, receiving a second alphanumeric value and a corresponding second instruction, and maintaining the first alphanumeric value and the corresponding first instruction at the transceiver as a first value-instruction pair, maintaining the second

alphanumeric value and the corresponding second instruction at the transceiver as a second value-instruction pair (see column 14, lines 29-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Carroll into the system of Leivo, Reader and Hughes in order to provide an embedded private-key algorithm to ensure proper authentication key transfer (see Carroll, Abstract).

Regarding claim 37, the combination of Leivo, Reader and Hughes teaches the transceiver authentication credentials (see Leivo, Abstract and column 7, lines 6-25). the combination of Leivo, Reader and Hughes does not specifically applying the authentication processing at the transceiver to the first alphanumeric value to generate a first transceiver generated result associated with the first alphanumeric value and the corresponding first instruction, applying the authentication processing at the transceiver to the second alphanumeric value to generate a second transceiver generated result associated with the second alphanumeric value and the corresponding second instruction, maintaining the first transceiver generated result along with the first value-instruction pair, and maintaining the second transceiver generated result along with the second value-instruction pair.

Carroll teaches applying the authentication processing at the transceiver to the first alphanumeric value to generate a first transceiver generated result associated with the first alphanumeric value and the corresponding first instruction, applying the authentication processing at the transceiver to the second alphanumeric value to generate a second transceiver generated result associated with the second

alphanumeric value and the corresponding second instruction, maintaining the first transceiver generated result along with the first value-instruction pair, and maintaining the second transceiver generated result along with the second value-instruction pair (see column 14, lines 29-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Carroll into the system of Leivo, Reader and Hughes in order to provide an embedded private-key algorithm to ensure proper authentication key transfer (see Carroll, Abstract).

Regarding claim 38, Leivo further teaches identifying an authentication value in the authentication request received from the control station, matching the authentication value in the authentication request to one of the first transceiver generated result and the second transceiver generated result (see Abstract and column 7, lines 6-25), and if the authentication value in the authentication request received from the control station matches the first transceiver generated result, utilizing the corresponding first instruction to generate a response to the control station (see Abstract and column 7, lines 6-25 and see column 8, lines 32-48), and if the authentication value in the authentication request received from the control station matches the second transceiver generated result, utilizing the corresponding second instruction to generate a response to the control station (see Abstract and column 7, lines 6-25).

Regarding claim 39, Leivo further teaches identifying an authentication value in the authentication request received from the control station (see Abstract and column 7, lines 6-25), attempting to match the authentication value in the authentication request to

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one of the first transceiver generated result and the second transceiver generated result (see column 7, lines 6-25 and column 8, lines 32-48), and if the authentication value in the authentication request received from the control station does not match either of the first and second transceiver generated result (see Abstract and column 7, lines 6-25), failing authentication of the transceiver (see Abstract, column 7, lines 6-25 and column 8, lines 32-48).

Allowable Subject Matter

8. Claims 12 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 and 27 are objected for the reasons as stated in the previous Office action, page 9 (dated 11/02/05).

Response to Arguments

9. Applicant's arguments with respect to claims 1-11, 13-26 and 28-53 have been considered but are moot in view of the new ground(s) of rejection.

On page 28 of applicant's remarks, applicant argues that none of the cited references teaches or suggests "producing an authentication response for authenticating the transceiver by applying authentication processing to request information in the authentication request, the authentication processing being based on

use of the transceiver authentication credentials associated with the transceiver" as recited by the claimed invention.

In response, the combination of Leivo, Reader and Hughes does indeed teach the newly added limitations as recited by the claimed invention. In addition, applicant's attention is directed to the teaching of Leivo, Reader and Hughes above.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGHI H. LY whose telephone number is (571)272-7911. The examiner can normally be reached on 9:30am-8:00pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi H. Ly

/Nghi H. Ly/

Primary Examiner, Art Unit 2617